Message

From: Wolfram, Michael [Wolfram.Michael@epa.gov]
Sent: 11/30/2016 9:48:59 PM
To: Joachim Fong [joachim@aspower.com]
CC: Paul Michael Young [pmy@aspower.com]; Yannayon, Laura [Yannayon.Laura@epa.gov]; Maurin, Lawrence [Maurin.Lawrence@epa.gov]; Chen, Eugene [Chen.Eugene@epa.gov]
Subject: FW: Follow-up items for ICRC Project permitting

Joachim. Forwarded below is the last correspondence which I'm aware of from our office with ETP.

Kind regards.

Michael
American Samoa Program Manager
USEPA-R9
1-415-972-3027

From: Maurin, Lawrence
Sent: Thursday, September 29, 2016 4:30 PM
To: Kevin Moore <kevin.moore@energytransformationpartners.com>
Cc: John Johnston <john.johnston@energytransformationpartners.com>; Lisa Muzekari P.E. <muzekari.l@thomasandhutton.com>; Wolfram, Michael <Wolfram.Michael@epa.gov>; Chen, Eugene <Chen.Eugene@epa.gov>; Fa'amao Asalele <faamao.asalele@epa.as.gov>; William Sili <william.sili@epa.as.gov>
Subject: RE: Follow-up items for ICRC Project permitting

Hi Kevin,

Thanks for your questions.

For the flare, your description sounds reasonable. I would suggest that you consider taking a permit limit on the hours of operation for the emergency flare. If you are interested in avoiding triggering title V due to being a major source, it may be prudent to think about the maximum number of hours per year you would need to operate the flare. You would probably have to keep records on the amount of time that the valve to the flare is open vs. feeding to the engine(s).

For the engines, it is possible to write a permit condition that allows only one engine to operate at any given time. Again, you have to keep records to show when each engine is operating. Another possibility would be to assume that both engines can run at the same time, but the amount of syngas that can be combusted would be limited by a permit condition. You could keep track of the flow of syngas from the pyrolysis unit to the combustion units (engines and flare combined). Either of these can be used to limit your PTE. If you don't want to take either of these limits, you may just calculate the PTE assuming both engines can run 8760 hours per year. Similarly to the flare, you may not be able to operate both engines simultaneously without having your PTE go above the title V major source threshold (100 tpy for criteria pollutants).

So, there are a few options here. From a permitting standpoint, I think the best option would be to take a limit on the syngas flow to the combustion units that you can live with, then you can always apply for a permit modification if you decide to expand the operation later. If you want to avoid title V, you should think about a configuration that puts your PTE below 100 tons per year for all criteria pollutants and ask for the appropriate limits in the ASEPA-issued construction permit.

I hope this helps.

Larry

Larry Maurin
Air Permits Office (AIR-3)
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105
(415) 972-3943
Maurin.Lawrence@epa.gov

From: Kevin Moore [mailto:kevin.moore@energytransformationpartners.com]
Sent: Friday, September 23, 2016 8:35 AM
To: Maurin, Lawrence <Maurin.Lawrence@epa.gov>
Cc: John Johnston <john.johnston@energytransformationpartners.com>; Lisa Muzekari P.E. <muzekari.l@thomasandhutton.com>; Wolfram, Michael <Wolfram.Michael@epa.gov>; Chen, Eugene <Chen.Eugene@epa.gov>; Fa'amao Asalele <faamao.asalele@epa.as.gov>; William Sili <william.sili@epa.as.gov>
Subject: Re: Follow-up items for ICRC Project permitting

Larry,

Thank you so much for working through the determination issue with the enforcement division. We are preparing the documents for submission of our exemption request as we speak.

We are still in the process of completing the information that you recently requested. However, I'd like to address the item concerning the emergency flare at this time, and also introduce another question that we have dealing with our final PTE estimates.

First, the emergency flare sizing and operating time:

Based on the maximum feedstock throughput of the unit, the maximum gross product gas production will equal 417 cfm or 16.9 MMBTU/hr. With this information, we have decided to use a flare more appropriately sized for the project, rated at 16.9 MMBTU/hr. Our estimate of 100 hours per year for emergency flare usage was primarily determined by using our best assumptions on any unforeseen situations and routine maintenance times, where we might have to bypass the generator temporarily, since the flare and genset operation are considered exclusive of each other. This approximation takes into account that any predicament which would necessitate extended flaring would also trigger a temporary shutdown of the waste processing. In this manner, we stop the production of gas entirely until the engine/generator is back online. If flaring were to occur, we consider that it would only take place for a period sufficient enough for the team to diagnose the severity of an upset condition. This would then be followed by taking the proper means to repair, or proceeding with system shutdown. If you would like to discuss further our flare sizing and operating time calculations, we are more than happy to open that dialogue, and hear your suggestions so that we come away with the most accurate estimates.

Along the lines of routine and emergency maintenance for the IC engine generator, we were also contemplating a scenario where we would actually acquire two identical IC engine generators, with only one operational at any point in time. If a malfunction were to occur, or if maintenance were needed for one genset, the entire gas flow could be diverted to the second genset, with any required intermediate gas flow being shunted to the storage tanks. This could effectively do away with the use of a flare altogether, or at least in unusually uncommon situations. Not only does this provide uninterrupted electrical generation, but also helps ensure against any extended process stoppage. Since our location on a distant island in the Pacific is not conducive to quick

turnaround on needed parts or experienced labor, having a second generator immediately available could increase our reliability greatly.

Our question here is...if we were to decide to install a second IC engine genset to be used only in the event of the primary genset malfunction or maintenance, how does that fit into our PTE estimates? Since the maximum throughput of the system, and resulting energy of the product gas stream is only sufficient to power one generator at a time, we believe that would be the inherent limitation on the number of hours for any calculations done involving the engine. In a situation where the process output itself dictates that only one engine can be operational at a time at 8760 hours, what is your opinion on how this figures into our engine emissions estimates? Your input here would be greatly appreciated as well.

Thank you for your time and attention to our project and questions. We look forward to hearing from you.

Best regards,
Kevin

Kevin M. Moore
Chief Operations Officer

ENERGY TRANSFORMATION PARTNERS

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On Sep 20, 2016, at 3:12 PM, Maurin, Lawrence <Maurin.Lawrence@epa.gov> wrote:

Hi Kevin and John,

I wanted to let you know that I spoke with our air enforcement section about your request for exemption from NSPS Subparts AAAA and EEEE as a Small Power Production Facility. They suggested that you submit a formal applicability determination request to their office. I would recommend that you include the contents of your memo dated August 22, 2016 in a request addressed to:

Manager, Air & TRI Section (ENF-2-1)
Enforcement Division
U.S. EPA Region 9
75 Hawthorne Street
San Francisco, CA 94105
Aeo_r9@epa.gov

I would try to submit this request to them as soon as possible because they can take several months. I have also attached a copy of the letter EPA sent to Fulcrum BioEnergy in 2010 with concurrence of their

analysis that NSPS Subpart AAAA would not apply to their syngas generation units or air pollution control flare.

Please let me know if you have any questions.

Larry

Larry Maurin
Air Permits Office (AIR-3)
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105
(415) 972-3943
Maurin.Lawrence@epa.gov

From: Kevin Moore [mailto:kevin.moore@energytransformationpartners.com]
Sent: Monday, September 12, 2016 3:55 PM
To: Maurin, Lawrence <Maurin.Lawrence@epa.gov>
Cc: John Johnston <john.johnston@energytransformationpartners.com>; Lisa Muzekari P.E. <muzekari.l@thomasandhutton.com>; Wolfram, Michael <Wolfram.Michael@epa.gov>; Chen, Eugene <Chen.Eugene@epa.gov>; Fa'amao Asalele <faamao.asalele@epa.as.gov>; William Sili <william.sili@epa.as.gov>
Subject: Re: Follow-up items for ICRC Project permitting

Larry,

We really appreciate you lending your time and attention to us last Thursday. We feel like it was an extremely productive meeting and are looking forward to providing you with all of the information you need for your review.

In terms of your specific requests, I am working with Lisa to get the emissions calculations shored up & in her firm's format. I will send these your way, in spreadsheet form, as soon as that is completed. In addition, we will be sure to include the suggested calculations for the emergency equipment, the IC engine spec sheet, and our discussion of the flare topic. My guess is that all of this will be available this week.

If you need anything at all from us in the meantime, please call or email. We're very excited about moving this process forward.

Thank you,

Kevin

Kevin M. Moore
Chief Operations Officer

<image001.png>

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On Sep 12, 2016, at 8:49 AM, Maurin, Lawrence <Maurin.Lawrence@epa.gov> wrote:

Hi John,

I hope your travels to American Samoa are going well. I wanted to follow up on a few items we were hoping to get from you to assist with our review of the pre-application materials for the ICRC Project.

1. Emission calculation spreadsheets – If you wouldn't mind sharing these excel files with us, they would be helpful for verifying the PTE calculations for the project.

2. Inclusion of the 300 kW emergency engine and 300kW fire water pump potential emissions. We recommend that you use both 500 and 1,000 hours of operation per year, as a worse-case scenario, to estimate the potential to emit for these two units. See this link for EPA's policy on calculating PTE for emergency generators: https://www.epa.gov/sites/production/files/2015-08/documents/emgen.pdf

3. If possible, please provide copies of the manufacturer's emissions specifications for each IC engine.

4. Further discussion of the emergency flare. Specifically, we would like to see more discussion of why a flare with a heat input capacity of 842 mmBTU/hr was selected for the project. Additionally, would ICRC be requesting a permit limit on the hours of operation of the flare to 100 hours/year or are there other inherent limits in the process that would limit the potential to emit of the emergency flare?

Let me know if you have any questions. Feel free to give me a call if you would like to discuss any of these requests over the phone.

Thank you,

Larry

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<adi-nsps-1000019_Conversion of Post Sorted Municipal Solid Waste Feedstock.pdf>